

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: 09/855,340C  
Source: 1Fw16  
Date Processed by STIC: 12/6/06

# ***ENTERED***

## CRF Errors Edited by the STIC Systems Branch

Serial Number: 09/855,340C

CRF Edit Date: 12/6/06  
Edited by: AZ

\_\_\_ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

✓  
\_\_\_ Corrected the SEQ ID NO. Sequence numbers edited were:  
19

✓  
\_\_\_ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:  
19

\_\_\_ Deleted: \_\_\_ invalid beginning/end-of-file text ; \_\_\_ page numbers

\_\_\_ Inserted mandatory headings/numeric identifiers, specifically:  
\_\_\_\_\_

\_\_\_ Moved responses to same line as heading/numeric identifier, specifically:  
\_\_\_\_\_

✓  
\_\_\_ Other: deleted software information after seq. 18  
\_\_\_\_\_  
\_\_\_\_\_



IFW16

## RAW SEQUENCE LISTING

DATE: 12/06/2006

PATENT APPLICATION: US/09/855,340C

TIME: 17:06:00

Input Set : A:\PTO.txt

Output Set : N:\CRF4\12062006\I855340C.raw

```

3 <110> APPLICANT: Hosted, Jr., Thomas J.
4   Horan, Ann C.
6 <120> TITLE OF INVENTION: Isolation of Micromonospora carbonacea var. africana
7   pMLP1 integrase and use of integrating function for
8   site-specific integration into Micromonospora
9   halophitica and Micromonospora carbonacea chromosome
11 <130> FILE REFERENCE: IN01164K US
13 <140> CURRENT APPLICATION NUMBER: 09/855,340C
14 <141> CURRENT FILING DATE: 2001-05-15
16 <150> PRIOR APPLICATION NUMBER: 60/204,670
17 <151> PRIOR FILING DATE: 2000-05-17
19 <160> NUMBER OF SEQ ID NOS: 19
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 1179
25 <212> TYPE: DNA
26 <213> ORGANISM: Micromonospora carbonacea
28 <400> SEQUENCE: 1
29 gtgtggatcg agaagaacgg gcccgctctac cgcattcggg acctcgttcg cggtaaaaag 60
30 gtcaccattc agaccgggta tccgacgaag accagcgcca agaatgcgat ggtgcagttc 120
31 cgtgcggagc agttgcaggg caacgcgctc atgccgcgcg gcggtcagat taccctcgcc 180
32 gatttcgtgg gggagtggtg gccgagctac gaaaagacgc tgaaaccgac cgccgtgaac 240
33 tcggagggca accggatccg caaccacctc ctgccatac tcggccatct cacccttgac 300
34 gagctggacg ggcaggtcac ccagcagtgg gtcaacgacc tggaggccgg cgtcggcccc 360
35 tggccggagt ccacgcgggg tcgtcggaag ccgctggcag cgaagacgat cagcaactgc 420
36 cacggcctgc tgcacacgat ctgcggcgcg gcgatcgcgg cgaaacggat caggctcaac 480
37 ccgtgctctt cgacgatgct gccccggcgc gagccgaaag agatgaagtt cctgagcgac 540
38 ccggagatcg gtcggcttat cacggcgctt ccgccgcact ggcgaccgct cgtcatgctg 600
39 ctggtggcga ccggtctgag gtgggggtgag gcgatcggcc tgcgcgccgg ccgggtcgac 660
40 ctgctcgccg cgcggccccg gctgaccgtc gtcgagcagc tccaggagct ggccagcacg 720
41 ggagagctcg tcttccagtc gccgaagacc gcgaagggcc ggcgcacggt cagtttcacc 780
42 acgaaagtgc ctctactgct tacgccactc atcgccggaa agaaaagtga cgaggtcgtg 840
43 ttcaccgcgc cgaaaggcgg gatggttaagg acgcgcgaatt tccggcggat ctgggtcaag 900
44 gcgtgcgagg aagccgggct tccgggctta cgcattcacg atctgcggca cactcacgcg 960
45 gcgatcctga tttctgcggg gcgtccgctg tcggcgatct cccgccgcct cggtcactcg 1020
46 tcgatcgcgg tcacggatct gctgtacggg cacctgcgtg aggaggtcga cgaggggatc 1080
47 ctgcggcgca tcgaggagcg gatggcggcg gtcggggctg aggacctgga ggcggaactc 1140
48 gacgaggagc tgacggacgt gttggccgac gcagcatga 1179
51 <210> SEQ ID NO: 2
52 <211> LENGTH: 426
53 <212> TYPE: DNA
54 <213> ORGANISM: Micromonospora carbonacea
56 <400> SEQUENCE: 2

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DATE: 12/06/2006

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Input Set : A:\PTO.txt

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57 atgcgcaaca caccggggct ggggcgcggc acatggggcg catacgtcct caccgcccgc 60
58 gagcgcgccg gactgaccaa gagcgagttg gccaggcgca tccagaagga ccggggccacc 120
59 gtcggccggt gggaggacgg caagaaccgg cccgacgacg cggacctcgt tgcccgcgtc 180
60 gcccaggtgc tcggcctcga ctcgacgaa gccctcgccg ccgcaggtct gcgccccggc 240
61 gtcacccgcg cagcgacccc aaccatggac ctggacgagg aaatcgagct ggtccgcacc 300
62 gaccccaagc tggacgagga catgaagcgg cgcacatcgc ccctaatact ggagcgccgt 360
63 gagcgcgaca agggggcggc gatcgaggaa accaagcggc tcacgcacct gttccgcccg 420
64 agctga                                         426
67 <210> SEQ ID NO: 3
68 <211> LENGTH: 34
69 <212> TYPE: DNA
70 <213> ORGANISM: Micromonospora carbonacea
72 <400> SEQUENCE: 3
73 ccccggtacg ggttcaattc ccatcagtca cccg                                         34
76 <210> SEQ ID NO: 4
77 <211> LENGTH: 241
78 <212> TYPE: DNA
79 <213> ORGANISM: Micromonospora carbonacea
81 <400> SEQUENCE: 4
82 tattagtccg cagccgccc ggccccgcgg gagcggagcg catggtggct gtagctcagt 60
83 tggcagagca ccgggttggt gtcccgggtg tcgtgggttc aattcccatc agtcaccgcg 120
84 acacgaaggc cccctccact cggagggggc ctccggcggt cctgaggggt cgcggtcagg 180
85 cggtcggctc ggcgctgggg gactcggccc cgtcggcggg agtggcctcg gcgtccgggg 240
86 a                                         241
89 <210> SEQ ID NO: 5
90 <211> LENGTH: 243
91 <212> TYPE: DNA
92 <213> ORGANISM: Micromonospora carbonacea
94 <400> SEQUENCE: 5
95 tggcggggggt gtggctatta ttagtccgca cgccgcccgg ccccgccgga gcggagcgca 60
96 tgggtggctgt agctcagttg gcagagcacc ggggttggtt cccggttggt gtgggttcaa 120
97 ttcccatcag tcaccgggca agtggatcta ctccacagca gatcaggccc cctccgaaga 180
98 gggggcctga tgcgtcatag gggacaggtg ggggaactca acccccggtt ccttgctcgc 240
99 gtc                                         243
102 <210> SEQ ID NO: 6
103 <211> LENGTH: 247
104 <212> TYPE: DNA
105 <213> ORGANISM: Micromonospora carbonacea
107 <400> SEQUENCE: 6
108 taggggaatc cactccggag acgcccggag caatccggag catgacggag caaccagcag 60
109 gtcaggtggc ctggtgacct cctgaccagg gccccgggtg gggttcaatt cccatcagtc 120
110 acccgtacac gaaggcccc tccactcgga gggggccttc ggcgttcctg aggggttcgcg 180
111 gtcaggcggt cggctcggcg ctgggggact cggccccgct ggcgggagtg gcctcggcgt 240
112 ccgggga                                         247
115 <210> SEQ ID NO: 7
116 <211> LENGTH: 255
117 <212> TYPE: DNA
118 <213> ORGANISM: Micromonospora halophytica
120 <400> SEQUENCE: 7

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## RAW SEQUENCE LISTING

DATE: 12/06/2006

PATENT APPLICATION: US/09/855,340C

TIME: 17:06:00

Input Set : A:\PTO.txt

Output Set: N:\CRF4\12062006\I855340C.raw

```

121 tttctccgca cccgcccggg gcgttcgacc ggggtgcggcg gcatggtggc tgtagctcag 60
122 ttggcagagc accgggttgt ggtcccgggt gtcgtgggtt caattcccat cagtcacccc 120
123 aggtaagacc caggtcaggg ccggttctca ccggccctga cgcattttca ggggcatggt 180
124 gggggcgcta ccgggggttg ggtgtctcac cgcgagccag catctcgatc aggcgatcga 240
125 gccggcgctg ccggg                                     255
128 <210> SEQ ID NO: 8
129 <211> LENGTH: 315
130 <212> TYPE: DNA
131 <213> ORGANISM: Micromonospora halophytica
133 <400> SEQUENCE: 8
134 tttctccgca cccgcccggg gcgttcgacc ggggtgcggcg gcatggtggc tgtagctcag 60
135 ttggcagagc accgggttgt ggtcccgggt gtcgtgggtt caattcccat cagtcacccc 120
136 gcaagtggat ctactccaca gcagatcagg cccctccga agagggggcc tgatgcgtca 180
137 taggggacag gtaggggaac tcaacccccg gtccttctc cgcgtcgggt catgccgtcc 240
138 gcgtacccct ccgcgtacct ggccctctcc cgttctctga tctcggcgcc gagctgatcg 300
139 cgcaggtgcg cctcc                                     315
142 <210> SEQ ID NO: 9
143 <211> LENGTH: 260
144 <212> TYPE: DNA
145 <213> ORGANISM: Micromonospora halophytica
147 <400> SEQUENCE: 9
148 taggggaatc cactccggag acgcccggag caatccggag catgacggag caaccagcag 60
149 gtcaggtggc ctgttgacct cctgaccagg gccccgtac gggttcaatt cccatcagtc 120
150 accccaggta agaccagggt cagggccggg tctcaccggc cctgacgcat ttccaggggc 180
151 atggtggggg cgctaccggg ggtgggggtg ctcaccgcga gccagcatct cgatcaggcg 240
152 atcgagccgg cgctgccggg                                     260
154 <210> SEQ ID NO: 10
156 <211> LENGTH: 209
158 <212> TYPE: DNA
160 <213> ORGANISM: artificial sequence
164 <220> FEATURE:
166 <223> OTHER INFORMATION: pMLP1 attP region
168 <400> SEQUENCE: 10
169 taggggaatc cactccggag acgcccggag caatccggag catgacggag caaccagcag 60
171 gtcaggtggc ctgttgacct cctgaccagg gccccgtac gggttcaatt cccatcagtc 120
173 acccggaag tggatctact ccacagcaga tcaggccccc tccgaagagg gggcctgatg 180
175 cgtcataggg gacaggtagg ggaactcaa                                     209
178 <210> SEQ ID NO: 11
180 <211> LENGTH: 19
182 <212> TYPE: DNA
184 <213> ORGANISM: artificial sequence
188 <220> FEATURE:
190 <223> OTHER INFORMATION: primer PR144
192 <400> SEQUENCE: 11
193 tgcttcgacg ccatcargg                                     19
196 <210> SEQ ID NO: 12
198 <211> LENGTH: 20
200 <212> TYPE: DNA
202 <213> ORGANISM: artificial sequence

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## RAW SEQUENCE LISTING

DATE: 12/06/2006

PATENT APPLICATION: US/09/855,340C

TIME: 17:06:00

Input Set : A:\PTO.txt

Output Set: N:\CRF4\12062006\I855340C.raw

206 <220> FEATURE:  
 208 <223> OTHER INFORMATION: primer PR145  
 210 <220> FEATURE:  
 212 <221> NAME/KEY: misc\_feature  
 214 <222> LOCATION: (7)..(7)  
 216 <223> OTHER INFORMATION: n is inosine (I)  
 220 <400> SEQUENCE: 12  
 W--> 221 **gtggaanccg ccgaakccgc** 20  
 223 <210> SEQ ID NO: 13  
 225 <211> LENGTH: 20  
 227 <212> TYPE: DNA  
 229 <213> ORGANISM: artificial sequence  
 233 <220> FEATURE:  
 235 <223> OTHER INFORMATION: primer PDH504  
 237 <400> SEQUENCE: 13  
 238 agggcaacaa gggaagcgtc 20  
 241 <210> SEQ ID NO: 14  
 243 <211> LENGTH: 21  
 245 <212> TYPE: DNA  
 247 <213> ORGANISM: artificial sequence  
 251 <220> FEATURE:  
 253 <223> OTHER INFORMATION: primer PDH505  
 255 <400> SEQUENCE: 14  
 256 ggcgggggtg tggctattat t 21  
 259 <210> SEQ ID NO: 15  
 261 <211> LENGTH: 21  
 263 <212> TYPE: PRT  
 265 <213> ORGANISM: artificial sequence  
 269 <220> FEATURE:  
 271 <223> OTHER INFORMATION: amino acid sequence of open reading frame indicated in  
 figures 4b  
 272 and 4d  
 274 <400> SEQUENCE: 15  
 276 Ser Pro Asp Ala Glu Ala Thr Pro Ala Asp Gly Ala Glu Ser Pro Ser  
 277 1 5 10 15  
 280 Ala Glu Pro Thr Ala  
 281 20  
 284 <210> SEQ ID NO: 16  
 286 <211> LENGTH: 21  
 288 <212> TYPE: PRT  
 290 <213> ORGANISM: artificial sequence  
 294 <220> FEATURE:  
 296 <223> OTHER INFORMATION: amino acid sequence of open reading frame indicated in  
 figures 5b  
 297 and 5d  
 299 <400> SEQUENCE: 16  
 301 Arg Gln Arg Arg Leu Asp Arg Leu Ile Glu Met Leu Ala Arg Gly Glu  
 302 1 5 10 15  
 305 Thr Pro His Pro Arg  
 306 20  
 310 <210> SEQ ID NO: 17

## RAW SEQUENCE LISTING

DATE: 12/06/2006

PATENT APPLICATION: US/09/855,340C

TIME: 17:06:00

Input Set : A:\PTO.txt

Output Set: N:\CRF4\12062006\I855340C.raw

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311 <211> LENGTH: 21
312 <212> TYPE: PRT
313 <213> ORGANISM: Micromonospora carbonacea
315 <400> SEQUENCE: 17
317 Ser Pro Asp Ala Glu Ala Thr Pro Ala Asp Gly Ala Glu Ser Pro Ser
318 1          5          10          15
321 Ala Glu Pro Thr Ala
322          20
325 <210> SEQ ID NO: 18
326 <211> LENGTH: 21
327 <212> TYPE: PRT
328 <213> ORGANISM: Micromonospora halophytica
330 <400> SEQUENCE: 18
332 Arg Gln Arg Arg Leu Asp Arg Leu Ile Glu Met Leu Ala Arg Gly Glu
333 1          5          10          15
336 Thr Pro His Pro Arg
337          20
339 <210> SEQ ID NO: 19
340 <211> LENGTH: 21
341 <212> TYPE: DNA
342 <213> ORGANISM: Artificial Sequence
344 <220> FEATURE:
345 <223> OTHER INFORMATION: primer PDH502
347 <400> SEQUENCE: 19
348 ttgttggtcc ggcccgcaac g          21
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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 12/06/2006  
PATENT APPLICATION:    US/09/855,340C      TIME: 17:06:01

Input Set : A:\PTO.txt  
Output Set: N:\CRF4\12062006\I855340C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:12; N Pos. 7



**VERIFICATION SUMMARY**

PATENT APPLICATION: **US/09/855,340C**

DATE: 12/06/2006

TIME: 17:06:01

Input Set : **A:\PTO.txt**

Output Set: **N:\CRF4\12062006\I855340C.raw**

L:221 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0

**Raw Sequence Listing before editing  
(for reference only)**



IFW16

## RAW SEQUENCE LISTING

DATE: 12/06/2006

PATENT APPLICATION: US/09/855,340C

TIME: 08:33:26

Input Set : A:\seqlist.txt

Output Set: N:\CRF4\12062006\I855340C.raw

3 <110> APPLICANT: Hosted, Jr., Thomas J.  
 4 Horan, Ann C.  
 6 <120> TITLE OF INVENTION: Isolation of Micromonospora carbonacea var africana  
 7 pMLP1 integrase and use of integrating function for  
 8 site-specific integration into Micromonospora  
 9 halophitica and Micromonospora carbonacea chromosome  
 11 <130> FILE REFERENCE: IN01164K US  
 13 <140> CURRENT APPLICATION NUMBER: 09/855,340C  
 14 <141> CURRENT FILING DATE: 2001-05-15  
 16 <150> PRIOR APPLICATION NUMBER: 60/204,670  
 17 <151> PRIOR FILING DATE: 2000-05-17  
 19 <160> NUMBER OF SEQ ID NOS: 19  
 21 <170> SOFTWARE: PatentIn Ver. 2.1

## ERRORED SEQUENCES

E--> 344 <210> SEQ ID NO: 119  
 345 <211> LENGTH: 21  
 346 <212> TYPE: DNA  
 347 <213> ORGANISM: Artificial Sequence  
 349 <220> FEATURE:  
 350 <223> OTHER INFORMATION: primer PDH502  
 E--> 352 <400> SEQUENCE: 19  
 E--> 353 ttgttggtcc ggcccgaac g

Does Not Comply  
Corrected Diskette Needed

21K insert

see p. 2

09/855,340C 2

<400> 18

Arg	Gln	Arg	Arg	Leu	Asp	Arg	Leu	Ile	Glu	Met	Leu	Ala	Arg	Gly	Glu
1				5					10					15	

Thr	Pro	His	Pro	Arg
			20	

<160> 19

<170> PatentIn version 3.3

*delete*